

# Mathematical Modeling

## Assignment 3

Due: Friday, December 21 or before. Include printouts of any Maple or Matlab code that you use.

**Exercise 1** *In the gamblers' ruin problem start with a uniform distribution of fortunes and 10 as the maximum fortune. What is the probability distribution of going broke, as a function of  $p$ , the probability of winning. Any of an analytic, tabular or graphical solution will work.*

**Exercise 2** *Again consider the gamblers ruin problem. Compute the expected number of plays as a function of  $p$ . Again, any of an analytic, tabular or graphical solution will work.*